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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,445	06/29/2000	Narendra Pulimi	CS10744	8066

7590

09/12/2002

Motorola Inc  
Personal Communications Sector  
Intellectual Property Department (PJB)  
600 North US Highway 45 Rm AN475  
Libertyville, IL 60048

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.  
**09/606,445**

Applicant(s)  
**Pulimi et al.**

Examiner  
**Joy K. Contee**

Art Unit  
**2681**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Jul 7, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-16 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 8, 11, 14, and 15 is/are rejected.
- 7) ☒ Claim(s) 3-5, 7, 10, and 16 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirements.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Tay et al ("Tay"), U.S. Patent No. 5,563,615.

Regarding claim 1, Tay discloses a multi-band antenna apparatus comprising:

a multi-band antenna including a first element and a second element, the first and second elements having different resonant frequencies (col. 2, lines 1-10);

a grounded helical antenna surrounding the multi-band antenna (col. 2, lines 51-55).

Regarding claim 6, Tay discloses a cellular telephone antenna comprising:

an inner antenna including a first element and a second element, the first and second elements having different resonant frequencies (col. 2, lines 1-10); and

a radio frequency (RF) grounded helical antenna surrounding the inner antenna, the RF grounded helical antenna including (col. 2, lines 51-55), a first section having a distance between adjacent turns of a first predetermined amount (col. 3, lines 25-33), and

a second section having a distance between adjacent turns of a second predetermined

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amount, the second predetermined amount less than the first predetermined amount (col. 3, lines 25-33).

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tay et al. (Tay), U.S. Patent No. 5,563,615, in view of Luzzatto et al. (Luzzatto), U.S. Patent No. 5,799,246.

Regarding claim 14, Tay discloses a cellular telephone comprising:

transmitter for transmitting signals (col. 2, lines 42-45);

a receiver for receiving signals (col. 2, lines 42-45);

a controller for controlling operation of the cellular telephone (col. ;

a first helical antenna coupled to the transmitter and the receiver, the first helical antenna tuned to a resonant frequency of operation; and (col. 4 5-13 ) JL

a grounded helical antenna surrounding the first helical antenna, the grounded helical antenna formed to have a first section of adjacent helical turns that are spaced farther apart than adjacent helical turns of the first helical antenna, the grounded helical antenna formed to have an upper capacitive loading segment to tune the ground helical antenna to substantially the resonant frequency of operation. (col. 4, 5-24) R

Tay does not explicitly disclose a synthesizer coupled to the transmitter and receiver for generating carrier frequency signals.

In a similar field of endeavor, Luzzatto is evidence of a radio transceiver including a synthesizer (col. 2, lines 9-19 and col. 3, line 4).

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At the time of the invention it would have been obvious to one of ordinary that a cellular telephone that the radio transceiver in Tay would include a synthesizer for the purpose of generating rf signals.

4. Claims 2,8,11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tay and Luzzatto in view of Applicant's admission as prior art.

Regarding claims 2,8,11 and 15, Tay further suggests, the cellular telephone as in claims and 1 and 14, further comprising:

a second grounded helical antenna (col. 2, lines 1-10, lines 31-33).

Luzzatto further discloses a printed circuit board having a metalized ground plane (col. 1, lines 66-67 to col. 2, line 10).

The combination of Tay and Luzzatto does not explicitly disclose the apparatus further characterized by:

a cellular telephone housing formed of a conductive material.

However, the Applicant admits in the Disclosure that it is "known in the art" the apparatus characterized by: a cellular telephone housing formed of a conductive material (page 4, lines 20-27).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified the combination of Tay and Luzzatto include a conductive housing for the purpose of preventing electromagnetic energy present in the interior space from passing through the surface of the housing.

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*Allowable Subject Matter*

5. The indicated allowability of claims 14-15 is withdrawn in view of the newly discovered reference(s) to Tay et al.. Rejections based on the newly cited reference are above.

6. Claims 3-5,7, 10 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 12-13 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7 and 10, is not explicitly found in the prior art of record the cellular telephone antenna as in claim 6 wherein a resonant frequency of the RF grounded helical antenna is substantially equal to a resonant frequency of one of the first and second elements of the inner antenna.

Regarding claims 12-13, it is not explicitly found in the prior art of record a cellular telephone antenna comprising a monopole antenna tuned to a first resonant frequency of operation; a first helical antenna coupled to the monopole antenna and having turns surrounding the monopole antenna the first helical antenna tuned to a second resonant frequency of operation; and an electronically grounded second helical antenna surrounding the first helical antenna.

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***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is (703) 308-0149. The Examiner can normally be reached between 5:30 a.m. and 2:00 p.m., Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached on (703)305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-4700.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

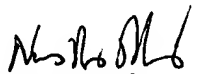
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314 (for formal or informal or draft communications, please label "PROPOSED" or "DRAFT")

*Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

  
Joy K. Contee

  
NAY MAUNG  
PRIMARY EXAMINER

September 3, 2002